

Strong Straight-Line Winds and Large Hail are Major Weather Threats in Montana

Across the Treasure State, thunderstorms typically begin to develop by midday and continue into the evening hours. Threats from thunderstorms include tornadoes, damaging winds, flooding and lightning.

Tornadoes can be the front-page headline in newspapers or the top story on radio or television news, but damaging straight-line winds of “tornado force” can also cause significant property damage, injure and kill animals and humans.

STRAIGHT LINE WINDS

Downburst winds from a thunderstorm usually results when an area of air within the storm is cooled by raindrops or hailstones, or by the evaporation of the raindrops, which quickly cools the air. This pocket of cooled air, heavier than the surrounding air, accelerates downward to the ground. As the cool air slams into the ground, it spreads out from the area of impact.

This process, in extreme cases, can cause winds speeds higher than 100 mph. Weather forecasters call these bursts of wind “microbursts” if they are less than 2 ½ miles across and “macrobursts” if they are greater than 2 ½ miles across. These downbursts of air can be very hazardous and even life-threatening to pilots and can cause extensive damage, injuries and fatalities at ground level as well.

Try to get indoors during all thunderstorm activity. High winds can suddenly develop, which can cause debris on the ground to become swift moving airborne missiles which can injure or kill.

HAIL

Hail, another thunderstorm threat, often occurs in Montana. Hail forms within thunderstorms as liquid water freezes in the cold mid and upper levels of the storms. The ice is kept aloft by strong updraft winds for a time, then when the hail becomes too large to be kept aloft by the updrafts, they cascade to the ground. Hailstones vary from pea-size (about 3/8 of inch in diameter) to larger than grapefruits (nearly 5 inches in diameter). Hailstones can do tremendous damage to farm crops, either as large hailstones or as a concentration of small hailstones that accumulates to a depth of several inches or more. Large hail can easily damage vehicles and buildings, and can be life-threatening to animals and humans. Again, try to get indoors during all thunderstorms. Small hail can suddenly change to very large hail that can cause serious injuries, and in rare cases, death.

(Wednesday, April 19 PSA)